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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/787,982	03/22/2001	Herbert Ulrich	879.155USWO	1258

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EXAMINER	
DEL SOLE, JOSEPH S	

ART UNIT	PAPER NUMBER
1722	

DATE MAILED: 04/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/787,982	ULRICH, HERBERT
	Examiner	Art Unit
	Joseph S. Del Sole	1722

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 February 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *6-13* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *6-13* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claim 11 is objected to because of the following informalities: **a)** at line 2 of claim 11, "configured to bath" should be changed to --configured to bathe-- in order to have the correct spelling. Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 6-13 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claims 6 and 13 recite "an adjustable extrusion cap and configured to extrude a melt column, the melt column having a thickness and an outer surface defining an outside diameter, the extrusion cap being adjustable to vary... outside diameter of the melt column". Nowhere does the specification recite "an adjustable extrusion cap" and therefore this is new matter. While nearest structure recited by the Applicant is an "adjustable pipe head", the specification does not teach that the adjustable pipe head varies the thickness and outside diameter of the melt column. Rather, at page 3, lines 9-17 the suction bell, in conjunction with the adjustable pipe head, varies diameter and thickness. Also, at page 3, lines 18-22, a

calibrating station is used to adjust diameter, but there is no indication that the extrusion cap of claims 6 and 13 is equivalent to the calibrating station. Finally, the specification does not provide support for the limitation "whereby a position of the extrusion cap, the vacuum condition, the predetermined diameter, and the size of the vacuum seal are each automatically controlled in response to the measurement signal", and thus this limitation of claim 13 is also new matter.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claims 6, 7, 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over GB (2 182 603) in view of Carlsen ('460) and Feuerherm ('766).

GB (2 182 603: fig. 2) disclose a device pr producing an extruded plastic pipe, having an extruder configured to extrude a melt column 22 having a thickness and an outer surface defining an outer diameter, a vacuum chamber 29 positioned in the device

adjacent the extruder, the vacuum chamber providing a vacuum condition and allowing for varying the vacuum therein thereby creating a bubble 22 defining the outside diameter of the extruded tube. The extruded melt column 22 is moved from the extruder into the vacuum chamber 29. The outer surface of the melt column is exposed to the vacuum in the vacuum chamber 29. A change in the vacuum condition changed the thickness and the outside diameter of the melt column in a controlled manner (p. 2, lines 74-80). A calibrating station 19 is adjacent to the vacuum chamber 29 and configured to calibrate the outer diameter of the melt column to a predetermined diameter. A vacuum calibrating bat 20 is adjacent to the calibrating station 19 and configured to bathe the calibrated melt column to cool and harden the melt column.

GB (2 182 603) fails to teach the chamber including measuring tools configured to determine the outside diameter of the melt column and fails to teach the extruder having an adjustable extrusion cap begin adjustable to vary the thickness and outside diameter of the melt column.

Carlsen teaches a device including an extruder with a die head for extruding a melt column, blower means 12 and vacuum means 14 which create a bubble defining the outside diameter, and measuring tools 21, which detect the outside diameter of the melt column. By changing the means for creating the bubble (i.e., the blower means 12 and the vacuum means 14) based upon the measuring tools, the outside diameter of the melt column is controlled by direct measurement. The measuring tools operate with sensing tools resting on the outside wall of the melt column (col 3, lines 9-20; fig 1).

Feuerherm teaches an extruder having an adjustable extrusion cap (Fig 4) configured to extrude a melt column and being adjustable to vary the thickness and outside diameter of the melt column (col 6, line 65 - col 7, line 5) for the purpose of achieving a column having an exactly desired wall thickness at any location of the column upon further extrudate processing (col 2, line 29 - col 3, line 22).

It would have been obvious to one having ordinary skill in the art at the time of the Applicant's invention to have modified the vacuum chamber of GB (2 182 603) with the measuring tools for detecting the outside diameter to control the outside diameter by varying the bubble diameter based upon the measured outside diameter as disclosed by Carlsen because such a modification would enable feedback control of the outside diameter by direct measurement and to have modified the extruder cap of GB (2 182 603) with the adjustable extruder cap taught by Feuerherm because it enables melt columns with varied thickness and diameter to be formed that can be further processed to make final products with areas of varied thickness and diameter.

7. Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over GB (2 182 603) in view of Carlsen ('460) and Feuerherm ('766) in view of Sweeney et al ('966).

GB (2 182 603), Carlsen and Feuerherm teach the apparatus as discussed above.

GB (2 182 603) fails to teach measuring instruments which control an outside diameter of an extruded melt column in a touch-free manner by means of sound or light sensors.

Sweeney et al disclose measuring instruments which control an outside diameter of an extruded melt column in a touch-free manner by means of sound or light sensors 166, 164, 162.

It would have been obvious to one having ordinary skill in the art at the time of the Applicant's invention to have modified the measuring instruments of Carlsen with the measuring instruments of Sweeney et al because such instruments are art recognized alternatives for measuring the outside diameter and because the measuring instruments of Sweeney et al would provide measurements in a touch-free manner.

8. Claims 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over GB (2 182 603) in view of Carlsen ('460) and Feuerherm ('766) in view of Loe et al ('873).

GB (2 182 603), Carlsen and Feuerherm teach the apparatus as discussed above.

GB (2 182 603) fails to teach a vacuum seal configured to engage the outer diameter of a melt column to maintain the vacuum in a vacuum calibrating chamber, the vacuum seal adjusts automatically to the outside diameter of the pipe.

Loe et al disclose a vacuum seal 10 configured to engage the outer diameter of a melt column to maintain the vacuum in a vacuum calibrating chamber 4. The vacuum seal is a flexible collar (col 3, lines 43-44) and thus is capable of automatically adjusting to seal the outer diameter.

It would have been obvious to one having ordinary skill in the art at the time of the Applicant's invention to have modified the apparatus of GB (2 182 603) to include a

vacuum seal as disclosed by Loe et al because such a modification would provide a seal for the vacuum calibrating chamber.

Response to Arguments

9. Applicant's arguments with respect to claims 6-13 have been considered but are moot in view of the new ground(s) of rejection.

The Applicant's added limitations overcome the prior art rejections, rendering the arguments drawn to those references moot.

Correspondence

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Joseph S. Del Sole whose telephone number is (571) 272-1130. The examiner can normally be reached on Monday through Friday from 8:30 A.M. to 5:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ms. Wanda Walker, can be reached at (571) 272-1151. The official fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306 for both non-after finals and for after finals.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from the either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on the access to the Private PAIR system, contact the Electronic Business Center (EBC) at 886-217-9197 (toll-free).

Joseph S Del Sole

J.S.D.
March 22, 2004